

REMARKS

The Office Action mailed April 20, 2005 has been carefully reviewed and, in view of the above amendments and following remarks, reconsideration and allowance of the application are respectfully requested.

I. Information Disclosure

An Information Disclosure Statement including a PTO Form 1449 was filed on December 22, 2004. The Applicants respectfully request that the Examiner return initialed copies of the PTO Form 1449 following to indicate consideration of the references cited therein.

II. Summary of Claims

Claims 1-26 and 27-55 are currently pending in the application, with claims 1, 20, 32, 40, 46, 50, and 54 being independent claims. Claim 26 is cancelled, claim 55 is added, and claims 1, 20, 32, 40, 46, and 54 are amended, in accordance with the above amendments.

III. Summary of Rejections and Objections

The following claim rejections were submitted by the Examiner in the outstanding Office Action:

- Claims 1-54 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite;
- Claims 1-10 and 20-24 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Number 4,392,258 to O'Neill;
- Claims 14 and 46-49 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Number 6,253,582 to Driggars;
- Claims 11-13, 27, 32-35, 37-39, and 50-53 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Number 5,645,924 to Hamilton; and
- Claims 17-19, 29-31, 43-45, and 54 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Number 5,095,548 to Chesebro, Jr.

Page 4 of the Office Action includes a discussion of claims 14-16, 28, and 40-42, but does not clearly identify the reference that the Examiner intends to utilize in the rejection. The Applicants believe the Examiner intended to reject these claims over Driggars.

Additionally, the Office Action objects to the specification and various claims for using non-standard terminology.

IV. Discussion of Non-Rejected Claims

The Office Action does not include a rejection of claims 25-26 and 36, other than the §112, second paragraph, rejections. Independent claim 55 is a combination of independent claim 20 (prior to this Amendment and claim 26). The Applicants respectfully submit that the Applicants are entitled to an allowance or a substantive rejection of claim 55 prior to the issuance of a final Office Action.

V. Discussion of Terminology

The Office Action objects to the specification and various claims for using non-standard terminology. More particularly, the objections state that terms in the specification and claims, including interweaving and interlooping, are non-standard and should be corrected.

Included with this Amendment is a copy of various excerpts from *Knitting Technology - A Comprehensive Handbook and Practical Guide*, Third edition, written by David J. Spencer, and published by Woodhead Publishing Limited in England (2001). More particularly, the excerpts include prefatory materials and Chapter 1 from *Knitting Technology*. As an initial matter, the Applicants refer to a page from the prefatory materials having a photograph and qualifications of the author, and the Applicants specifically point out that the author "is Chairman of The Textile Institute Knitting Terms and Definitions Committee." Furthermore, Chapter 1 is entitled *An Introduction To Textile Technology* and generally discusses various aspects of textile technology. With special reference to Section 1.2 of Chapter 1, entitled *Textile Fabrics*, the Author notes that "There are three principal methods of mechanically manipulating yarn into textile fabrics: interweaving, intertwining and interlooping." The Applicants also refer to Figures 1.1 and 1.3, which respectively depict examples of interweaving and interlooping. Without further explanation, this clearly indicates that interweaving and interlooping are standard terms in the art.

Even if the Examiner should continue to assert that these terms are considered to be non-standard textile terms, it is well-established that a patent applicant is entitled to be his or her own lexicographer. See, for example, *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 228 U.S.P.Q. 90

(Fed. Cir. 1985). With reference to the application at issue, interweaving and interlooping are sufficiently defined in paragraph 6 to impart definiteness to the use of these terms in both the specification and claims.

Based upon the above discussion, the Applicants respectfully request that the objections to the specification and claims be withdrawn.

VI. Discussion of §112 Rejection

The Office Action rejects claims 1-54 under 35 U.S.C. §112, second paragraph, as being indefinite. As a first matter, the Office Action states that "Applicant claims yarn going through a dimensional-transformation upon exposure to a physical stimulus. The applicant states no disclosure as to how the yarns transform due to the exposure to this stimulus (i.e. what causes it?) just the fact that it does change." Paragraph 34 clearly sets forth examples of physical stimuli that may cause dimensional-transformation of the yarns. More particularly, paragraph 34 states:

Various physical stimuli may induce a dimensional-transformation of yarns 21 and 22, including the presence of water (whether in a liquid or gaseous state), increased temperature, or moving air, for example. With regard to water, many materials exhibit a tendency to absorb water and swell or otherwise transform dimensionally. The dimensional-transformation may occur relatively rapidly due to immersion or contact with liquid water. In addition, the dimensional-transformation may occur relatively slowly due to a prolonged exposure to air with a relative humidity that is greater than 75 percent, for example. Textile 20, and particularly yarns 21 and 22, may be formed from one or more of these materials that exhibit a tendency to transform dimensionally in the presence of a physical stimulus such as water. Furthermore, yarns 21 and 22 may be formed from materials that transform dimensionally due to temperature increases or moving air.

Accordingly, the Applicants respectfully submit that the application provides a disclosure as to what causes the yarns to transform. That is, the application sets forth examples of physical stimuli that cause the dimensional-transformation.

As a second matter, the §112 rejection queries whether a chemical composition of the yarn, a manufacturing method of the yarn, or a finish of the yarn imparts the dimensional-transformation properties. The Applicants respectfully submit that the chemical composition, the manufacturing method, the finish, various other mechanisms, or a combination of these or other mechanisms may impart the dimensional-transformation properties upon exposure to a physical stimulus. More particularly, paragraph 35 states:

Yarns 21 and 22, as discussed above, may be formed from a variety of materials that transform dimensionally in the presence of water. For example, at least a portion of the filaments or fibers in yarns 21 and 22 may be formed of a moisture-absorptive polyester material, such as the various moisture-absorptive polyester materials manufactured by Teijin Fibers Limited of Japan. In some embodiments, yarns 21 and 22 may be a 75 denier, 72 filament semi-dull textured polyester yarn, and suitable formulations for the fiber or filament contents of yarns 21 and 22 include: (i) 70 percent generally non-absorptive polyester and 30 percent moisture-absorptive polyester; (ii) 76 percent generally non-absorptive polyester and 24 percent moisture-absorptive polyester; (iii) 80 percent generally non-absorptive polyester and 20 percent moisture-absorptive polyester; or (iv) 84 percent cationic-dyeable polyester that is also generally non-absorptive and 16 percent moisture-absorptive polyester. Accordingly, the percentage of the fibers or filaments formed from moisture-absorptive polyester may vary considerably within the scope of the present invention, and may also range from 5 percent to 100 percent in some embodiments. In each of the examples above, a non-absorptive or otherwise dimensionally-stable polyester fibers or filaments are combined with a moisture-absorptive polyester fibers or filaments. Other non-absorptive polymer fibers or filaments may also be utilized, such as rayon, nylon, and polyacrylic. In addition, silk, cotton, or wool may be utilized in yarns 21 and

22. Accordingly, a wide range of materials are suitable for the various yarns 21 and 22.

Accordingly, the Applicants respectfully submit that the application provides a disclosure as to yarn structures and compositions that dimensionally-transform upon exposure to a physical stimulus.

Based upon the above discussion, the Applicants respectfully request that the §112 rejections to the claims be withdrawn.

VII. Discussion of §102 Rejections

Discussion of Independent Claim 1

Independent claim 1 recites an article of apparel having a textile with at least one property that changes upon exposure to a physical stimulus. The textile has a modifiable structure formed from synthetic yarns that exhibit a dimensional-transformation upon exposure to the physical stimulus. The yarns have a first set of dimensions when unexposed to the physical stimulus, and the yarns have a second set of dimensions when exposed to the physical stimulus. The structure of the textile is modified by exposing the textile to the physical stimulus such that the yarns transform from the first set of dimensions to the second set of dimensions and change the property of the textile.

Independent claim 1 is rejected as being anticipated by O'Neill. According to the rejection, when water is added to a cotton fiber, the cross-section of the fiber swells, thus swelling the yarn. Cotton is a natural material, as opposed to synthetic, and yarns formed from cotton may be considered to be natural yarns. In contrast with O'Neill, independent claim 1 recites that the textile has a modifiable structure formed from *synthetic yarns* that exhibit a dimensional-transformation upon exposure to the physical stimulus. Whereas O'Neill teaches the use of natural yarns, independent claim 1 recites the use of synthetic yarns.

Based upon the above discussion, the Applicants respectfully submit that independent claim 1 is allowable over O'Neill. In addition, claims 2-10 should be allowable for at least the same reasons. Furthermore, claims 11-19 should be allowable as Driggars, Hamilton, and Chesebro do not remedy the deficiencies discussed above.

Discussion of Independent Claim 20

Independent claim 20 recites an article of apparel having a textile with a permeability that changes upon exposure to a physical stimulus. The textile has a plurality of openings defined between yarns that exhibit a dimensional-transformation upon exposure to the physical stimulus. The yarns have a first set of dimensions when unexposed to the physical stimulus, and the yarns have a second set of dimensions when exposed to the physical stimulus. The structure of the textile is modified by exposing the textile to the physical stimulus such that the yarns transform from the first set of dimensions to the second set of dimensions and increase the permeability of the textile.

Independent claim 1 is rejected as being anticipated by O'Neill. According to the rejection, when the yarn of O'Neill swells, the area between the yarns would reduce due to swelling and the air permeability of the textile would be reduced. In contrast, independent claim 20 recites that the transformation of the yarn would increase the permeability of the textile. Whereas, according to the rejection, O'Neill teaches a decrease in permeability, independent claim 20 recites an increase in permeability.

Based upon the above discussion, the Applicants respectfully submit that independent claim 20 is allowable over O'Neill. In addition, claims 21-24 should be allowable for at least the same reasons. Furthermore, claims 27-31 should be allowable as Driggers, Hamilton, and Chesebro do not remedy the deficiencies discussed above.

Discussion of Independent Claims 32 and 50

Independent claim 32 recites an article of apparel at least partially formed from an interwoven textile. The textile includes a first yarn and a second yarn. The first yarn exhibits a dimensional-transformation upon exposure to water, and the second yarn is substantially dimensionally-stable upon exposure to the water. The textile is formed by mechanically-manipulating the first yarn and the second yarn. The textile exhibits a first structure when unexposed to the water, and the textile exhibits the second structure when exposed to the water due to the dimensional-transformation of the first yarn. The second structure has an increased permeability in comparison with the first structure. Independent claim 50 also recites that an increase in a permeability of the textile.

Independent claims 32 and 50 are rejected as being anticipated by Hamilton. According to the rejection, a cotton yarn of Hamilton would absorb water and swell, and this would decrease the area between the yarns and reduce air permeability. In contrast, independent claim 32 recites that the change from the first structure to the second structure increases the permeability of the textile, and independent claim 50 recites an increase in permeability. Whereas, according to the rejection, Hamilton teaches a decrease in permeability, independent claims 32 and 50 recites an increase in permeability.

Based upon the above discussion, the Applicants respectfully submit that independent claims 32 and 50 are allowable over Hamilton. In addition, claims 33-35, 37-39, and 51-53 should be allowable for at least the same reasons.

Discussion of Independent Claim 40

Independent claim 40 recites an article of apparel at least partially formed from an interlooped textile. The textile includes a yarn that exhibits a dimensional-transformation upon exposure to water. The yarn has a first set of dimensions when unexposed to the water, and the yarn has a second set of dimensions when exposed to the water. A structure of the textile is modified by exposing the textile to the water such that the yarns transform from the first set of dimensions to the second set of dimensions and increase a permeability of the textile.

From the Office Action, it is unclear which reference the Examiner intended to use in rejecting independent claim 40. Based upon the position of the discussion of independent claim 40 in the Office Action, the Applicant will proceed as if the Examiner intended to reject independent claim 40 Driggars. According to the rejection, swelling of a cotton yarn of Driggars due to the presence of water would reduce air permeability. In contrast, independent claim 40 recites that, upon exposing the textile to water, the yarns transform from the first set of dimensions to the second set of dimensions and increase a permeability of the textile. Whereas, according to the rejection, Driggars teaches a decrease in permeability, independent claim 40 recites an increase in permeability.

Based upon the above discussion, the Applicants respectfully submit that independent claim 40 is allowable over Driggars. In addition, claims 41-42 should be allowable for at least the same reasons. Furthermore, claim 43-45 should be allowable as Chesebro does not remedy the deficiencies discussed above.

Discussion of Independent Claim 46

Independent claim 46 recites an article of apparel at least partially formed from an interlooped textile. The textile includes a first yarn and a second yarn. The first yarn exhibits a dimensional-transformation upon exposure to water. The first yarn has a first set of dimensions when unexposed to the water, and the first yarn has a second set of dimensions when exposed to the water. The second yarn is substantially dimensionally-stable upon exposure to the water. The textile has a first surface and an opposite second surface. The first yarn is substantially concentrated at the first surface. A structure of the textile is modified by exposing the textile to the water such that the first yarn transforms from the first set of dimensions to the second set of dimensions to form a plurality of nodes on the first surface. Each of the nodes are at least partially formed from a plurality of segments of the second yarn.

Independent claim 46 is rejected as being anticipated by Driggars. According to the rejection, Driggars discloses a textile formed from polyester and cellulosic yarns, and exposing the cellulosic yarns to water would form nodes. From the rejection, it appears that the Examiner intends that individual segments of yarns form nodes on the surface of the textile. That is, a portion of the cellulosic yarn swells and forms a node. In contrast, the nodes recited by independent claim 46 are at least partially formed from a plurality of segments of the second yarn. That is, each node is formed from a plurality of portions of the second yarn, rather than an individual section of the yarn.

Based upon the above discussion, the Applicants respectfully submit that independent claim 46 is allowable over Driggars. In addition, claims 47-49 should be allowable for at least the same reasons.

Discussion of Independent Claim 54

Independent claim 54 recites a method of manufacturing an article of apparel from a textile. The method includes selecting a first yarn with a first degree of water absorbency and a first degree of dimensional-transformation upon exposure to water. A second yarn with a second degree of water absorbency and a second degree of dimensional-transformation upon exposure to the water is also selected. The first yarn and the second yarn are mechanically-manipulated to form a textile with a structure that is modified from a first structure to a second structure upon

exposure to the water to change a property of the textile. The second structure has one of an increased permeability and the formation of a plurality of nodes in comparison with the first structure. Each of the nodes are at least partially formed from both the first yarn and the second yarn.

Independent claim 54 is rejected as being anticipated by Chesebro. According to the rejection, adding water to the material of Chesebro would cause a decrease in permeability and the formation of nodes. In contrast, independent claim 54 recites that either or both of the following would occur: an increase in permeability and formation of nodes formed from both the first yarn and the second yarn. Neither of these are taught or suggested by Chesebro.

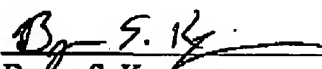
Based upon the above discussion, the Applicants respectfully submit that independent claim 54 is allowable over Chesebro.

VIII. Conclusion

In view of the foregoing, the Applicants respectfully submit that all claims are in a condition for allowance. The Applicants respectfully request, therefore, that the rejections be withdrawn and that this application now be allowed.

This Amendment is being hand filed by facsimile transmission on August 12, 2005 with a petition for a one month extension of time. Should additional fees be deemed necessary for consideration of this Amendment, such fees or extension are hereby requested and the Commissioner is authorized to charge deposit account number 19-0733 for the payment of the requisite fee. If anything further is desirable to place the application in even better form for allowance, the Examiner is respectfully requested to telephone the undersigned representative at (503) 425-6800.

Respectfully submitted,

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